Virginia Fishery Resource Grant Program
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Final Report

Use of Pound Nets in Nomini Bay to Commercially Harvest the Invasive Snakehead Fish and Blue Catfish

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Background and Purpose

In 2018, Virginia passed legislation allowing for the commercial harvest and sale of the invasive snakehead fish for the purpose of controlling the density of the population. However, to my knowledge no method for successfully harvesting the snakehead has been discovered that would support a commercial industry. Further, in Nomini Bay the only commercial method used for harvesting invasive blue catfish is the gill net which often kills much of its by-catch. The purpose of this study was to test the use of a pound net as a new commercial method for controlling the population of the invasive snakehead and blue catfish in a way that minimizes the death of by-catch.

Methods

For this FRG project, I fished my permitted pound over the course of 1 year and collected data on species caught. Pound nets are non-selective gear and catch are largely retrieved from the gear and landed on the vessel live and are able to be released back into the water, reducing concerns of unintentional catch of non-targeted species. The standard soak time for pound nets is 1-3 days depending on weather conditions and fish movement. Fishing was scheduled from August 1 to October 15, 2019 and March 15 to July 31, 2020. Fishing did not occur from mid-October to mid-March due to ice and wind. Catch was recorded on daily trip data sheets on the vessel which include water salinity and temperature, and all species caught by estimated volume and/or number of fish. Since there are several species of catfish inhabiting Nomini Bay, all catfish harvested were sorted by species onboard the vessel prior to offloading. Upon offloading and fish sorting by commercial dock processing operation, a trip weigh out ticket was retained itemizing all fish sorted to species and total weights. This weigh out information was included with trip data. I collaborated with local gill net fishers in Nomini Bay, and deployed a gill net myself as often as possible to obtain catfish catch data for comparison to that observed by pound net.

Conclusions

This study was a success. It allowed us to compare the success of using a pound net versus using a gill net for fishing for the invasive Blue Catfish and Snakehead Fish. This study was conducted over the course of three seasons (late summer of 2019 and the summer, spring and fall of 2020).
There were similarities in the effectiveness of the respective fishing methods. For example, both fishing methods were most effective in catching Blue Catfish in the spring. However, as a whole, the gill net was

more effective in catching Blue Catfish. I believe that this occurred because the pound net was in a fixed location while, I was able to move the gill net to follow the fish. Additionally, I set about a mile of gill net as opposed to the approximately 800 feet of netting used for the pound net.

To improve the effectiveness of my pound net, I plan to add additional netting. I also plan to use a double bay system as opposed to the single bay system that I used this past year. This would make it harder for fish to get out of the net.

Despite catching less fish, it was clear that the pound net was more effective than the gill net in reducing by-catch. The only time that by-catch died in the pound net was when an algae bloom came through the area. Whereas, it is fairly common for there to be dead by-catch in a gill net.

At no point, were snakehead caught in either the gill net or pound net. My belief is that the meshes of both nets are too small to catch these fish.

Overall, this study showed that the use of a pound net is effective in catching the invasive Blue Cat Fish and in reducing by-catch loss. It also indicated that there is a need for additional fishing methods to be explored for catching the invasive Snakehead Fish.